

SHEET 1 OF 12
Title: MACULAR DEGENERATION
DIAGNOSTICS AND THERAPEUTICS
Inventors: Stone *et al.* Ref. No. 21087.0019U3

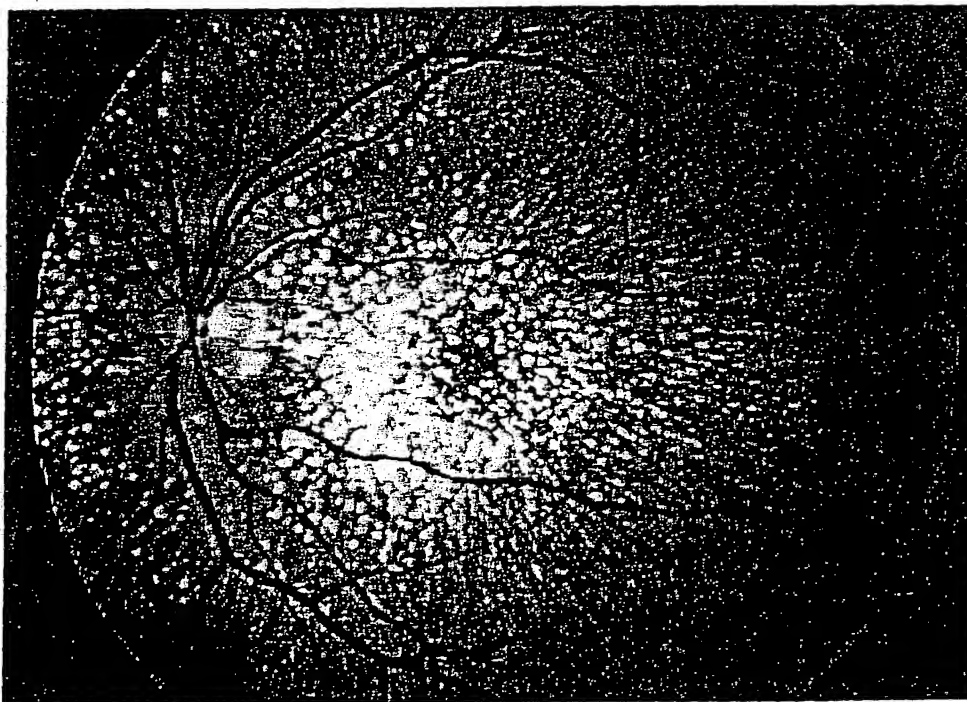


FIG.1

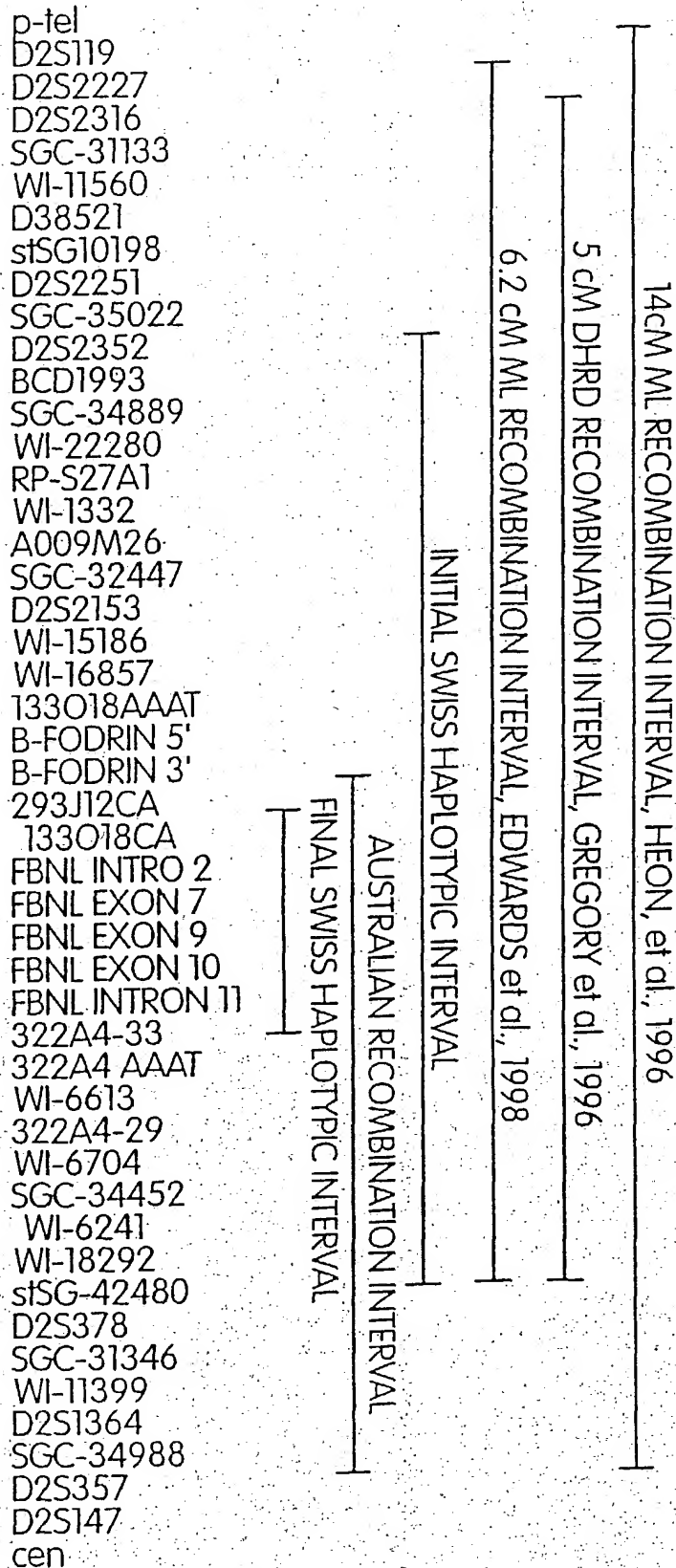
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Title: MACULAR DEGENERATION
DIAGNOSTICS AND THERAPEUTICS

Inventors: Stone *et al.*

Ref. No. 21087.0019U3

FIG. 2A



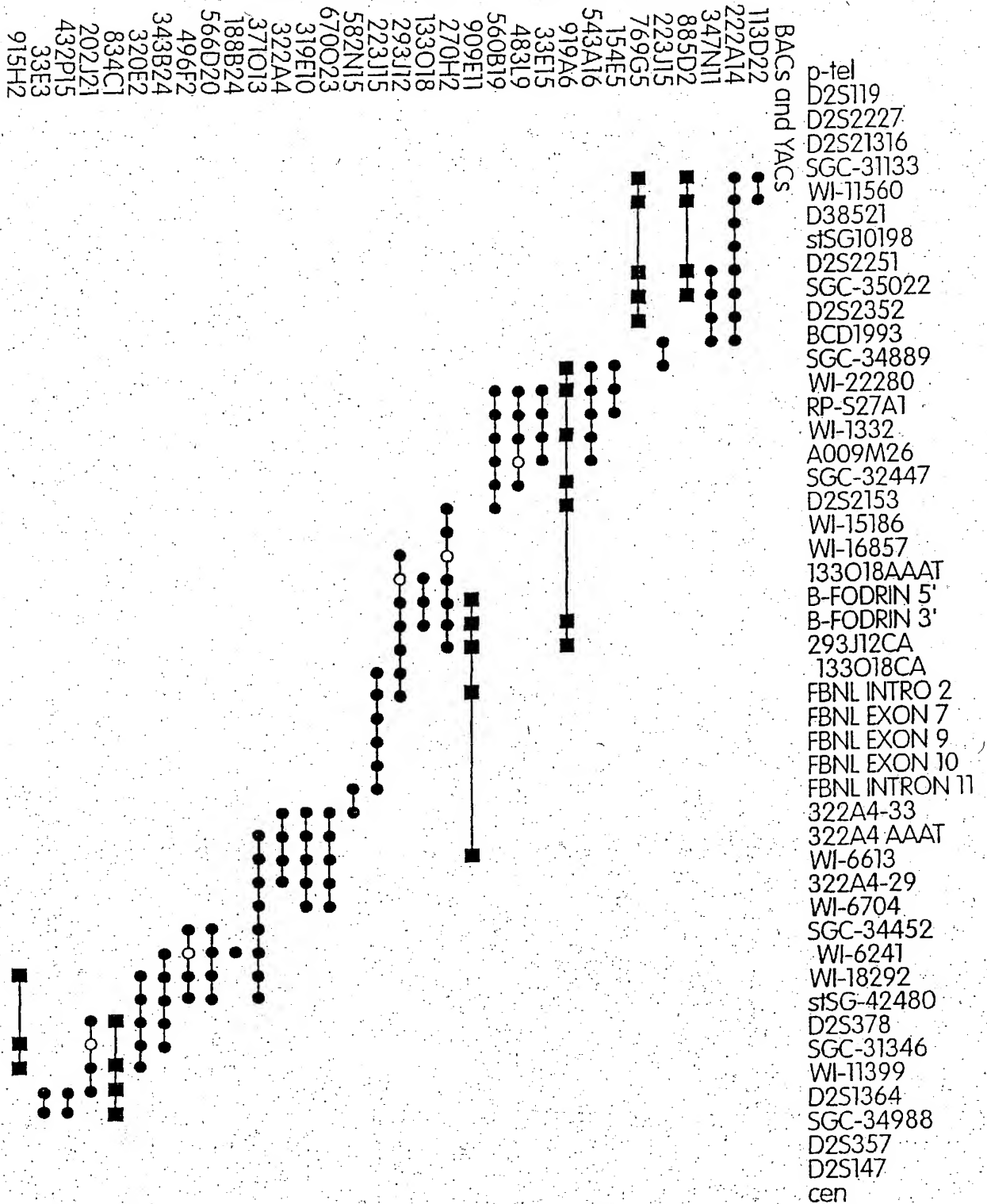


FIG. 2B

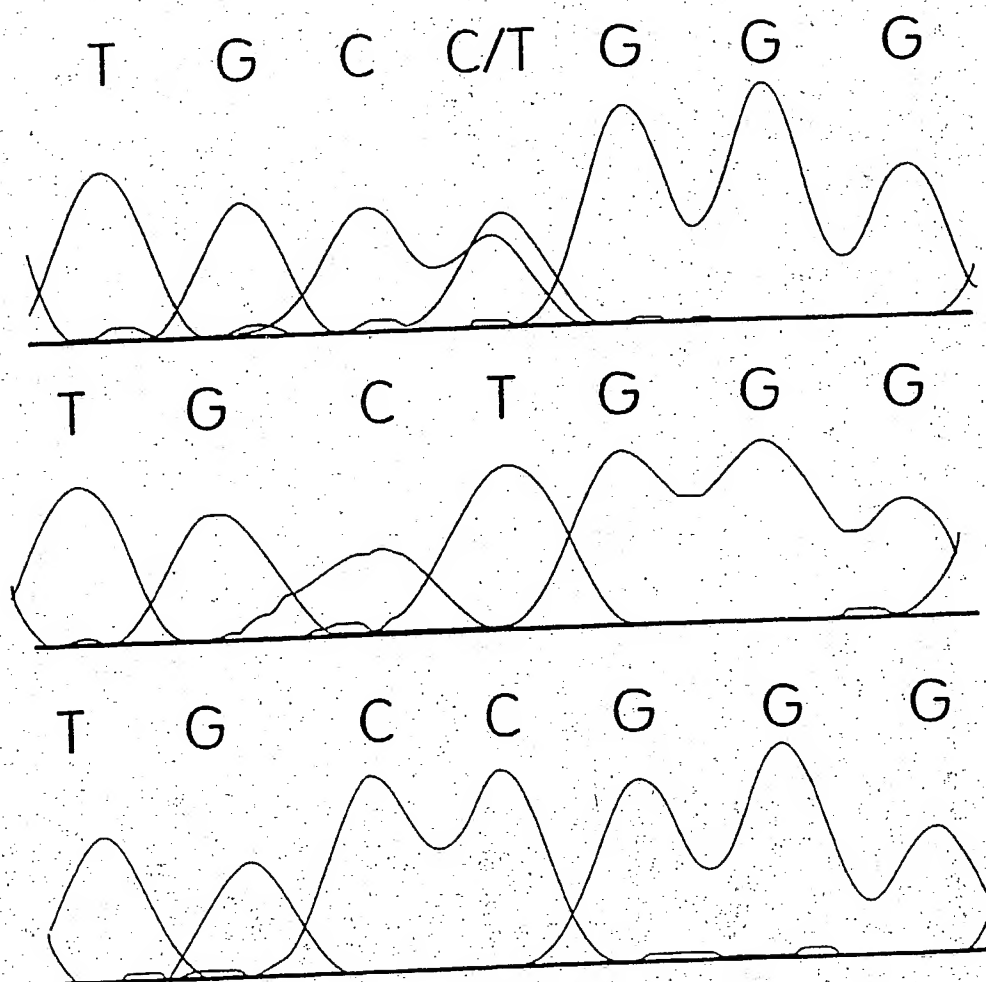


FIG. 3

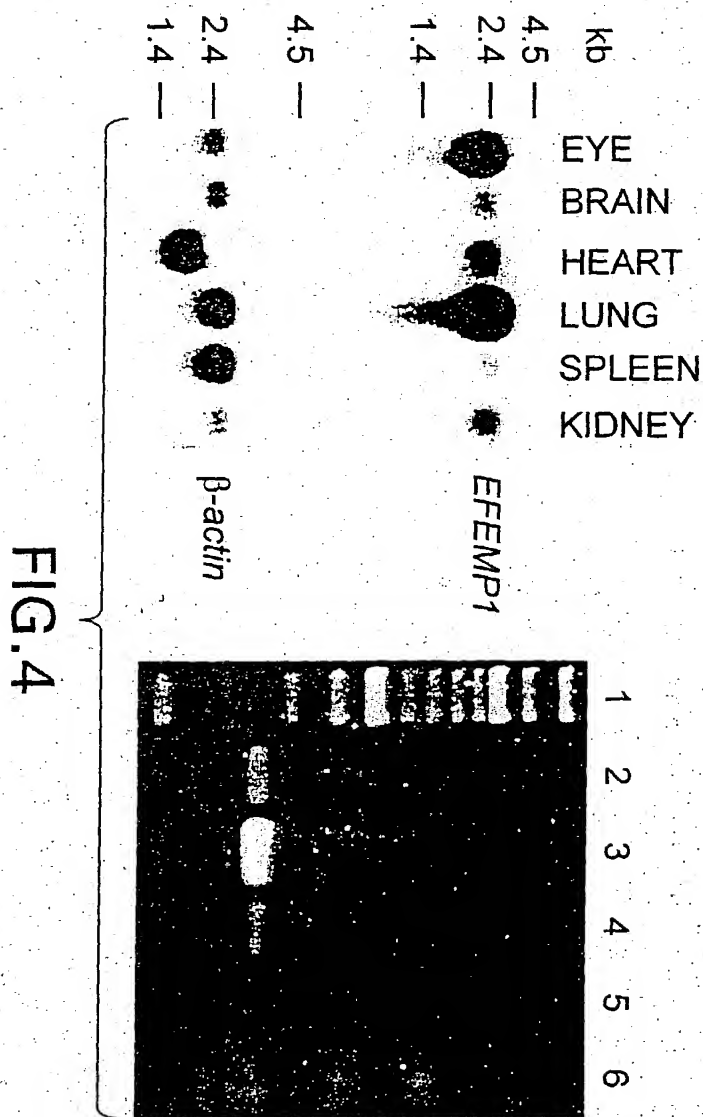


FIG.4

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Exon 1

Inventors: Stone *et al.*

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Currently undetermined

exon 2 partial transcript

AGTGTGCGAGATTTAAGCCGCACCTGGATTCCATAGGAGCTGGTTAGAAGCTGGGACGCTGAGCAGCT
CCAGGGGACCGCCGCTTAGCTTGCTGTTAAGAAAGGGACCTCATCTCCCTGCCGGGCCAGGGCCGCC
CGCCCGAAACTGGTACCTTGGGCTGCGGTGCGATCCCTGGTTCGGTCTAGGCAGCTGAAACCGAA
GGTAGCGTGTGGGGACCCAGACTGATAAGACAAAAGAGAATCAGTCGCTTTGGGCTGCCCTCCACA
CAACCTGGGACTTTTAAACAAAGCTGTGCGCAGAGAAAGGCGTGGAAATGCCACTTTGAGAGTTTGTG
CTGGGGGATGTGAGAAGCTCTGAGACATGTGAGAAGGTCTAGTATTCTACTAGAAGCTGGAAGATTGCT
CTCCGAGTTTGTGTTTGTATTTGTTTAAAAAATAAAAAGCTTGAGGCCAAGGCAATTCATATTGGCT
CACAGGTATTTTGTGCTGTGCTGTGCAAGGAAGTCTGCTAGCTCAAG (SEQ ID No. 46)

Complete intron 2

gtgagtatac tgggaaagcc ttaacgttct agagaacaga gttttgcagccccacctcca
tcccccgagg tgtgggactg gggggcagga aatgcaccgtccccctttgaa atggattact
gttttttctt ttcgaccccc tctttctgcagcctgctttg taggtgcagt ataaaatgca
cgctgaatgt cttttgtatgtaaacagcgt agcaggatgg agtaacgtga aatgcaattc
tacagcagtttttacgtctt tgctgcctcg ttcgttggt accgagaagg ttcaggaggggaggggaga
tgagaaagca gattggaagt tgagtatggg gtagcctcagcctctccca cctcctttc
ctcgcttggt ctcactgcta aagttttgtactttcccg cagcagatac taaacattag
tttgcctgt attttctttgag (SEQ ID No. 47)

Exon 3

ATTACAAATG TTGAAAGCCC TTTTCCTAAC TATGCTGACT CTGGCGCTGG TCAAGTCACA
GGACACCGAA GAAACCATCA CGTACACG (SEQ ID No. 48)

Start intron 3

gtaaggggtg atggaatttg aaataagtac gggtcagcgg gattctgtgacaaaaaaga ctttacacac
ccctgccagt gtatttgggc tatactctgctgagggtgat aaattaaaca acatttcatt catgcttcat
atctaagattcgttgtaaat tgcccccttg atcctttcaa aagttcattg ggctcaccacctaagatagg
aaccaacatg taatcatttg tgcagggcta aaaatgggatccgttcaaaa actaaaacca aagaaagtta
catgtttcca aaacattcaacaaattaatg ggtgtaagga actggaaaac ctggactcct
accacatgcagataaaaacca atacgtgcag aataagactc aagtcaagta agaacgttaaacaccataaa
gacacatggccttctttgtgtacatgacatgcattctcaagtaagtggcctttattgaatttataaaggctata
tattcattctttttgtataacttg ataattctaataataaaggcagacaacagtttatgtgttaccaggatg
catattggctaaagtgggttttaaacgtaatgtgtgcaactccgttttgcattttctaatttagcgtct
ctgatatttccaagtaatatgtgattagttgcataggtgtaaccaatgtttaataaaatattaaaaagat
cacctgacccctcccactgctacaaatagttgtggtgagaac agagaaggacagtactgacttcacttctggt
gagtttgtttgcacctctgttctgtgttttctgtcttttaatacagtgtaggcaaatgacatttgcctggatt
ggaatatgaaaa gcacatttttctactgctcccagtttaaaattaagtaatectactcgaaagaatgtgaaa
aatttttgaaaagaaaactcttaaaaatgaactaatgtcaattactgataataaac attatctcacttttgg
taccacattatccctagaatgttagtattcatctggcaaatgttcccttctgttgttcagatccactataaat
aaaatagcttaatacaaatattttgttaact tcatgttaaatgcagttgcttctctgctgaagataaattaa
gcaagaaaaatgaaggcatgtgctgkttatcttaaaatgaaaatgktttgkttatcagactaaacttactgcc
ttctcangggagctaaaattaattcactaccacattttataatcatctcataaaagattttacttcttttcca
gttgc (SEQ ID No. 49)

FIG.5A

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End intron 3

aaaatgcctg gttttcagaa ggggggtycc ataggctgtt tgttcagngggnggctaar gaggnnattt
gaagctgggg actgttnggg ggaacccnctgttcctttg gagcttaant tanggagcng gtcagggggg
gaaanggagggctttaatn ctgtanagg ntttnaaaaa aaaaaaaaaa ntccngggctggttnggggt
ggggngggg gaaagggcca agaaaaaaaa aaaaaatggtntttttttt tttaacattt ccaatgtggg
aaaaaaggca aattaataaagagcagtcag agaagtggga gaagattagt ctcaaaacag
aaaagaagatggtactgggc anctgtacca aaaagaacag aagagtttag gcagctgatggttgagaatg
gaccccgaa gctgtccaat gcacagactt gtcttttgaaaaaaagcga tagaatgtta aaccacccat
ctcatcatat atctaggacttttagcacaag gattgttgcc ataagaatga agctttttaga
gtgatttcttagggaatgga cacaccaatt aactgtctcc tggcccccacc ttgatgttttcttcacag
(SEQ ID No. 50)

Exon 4

CAATGCACTG ACGGATATGA GTGGGATCCT GTGAGACAGC AATGCAAAG (SEQ ID No. 51)

complete intron 4

gtgagccagcttcaaagacttccatgtgatcattgccttctgtctccatctcttgtgtcactcttcctgtcctgt
ctgtgttataccaaaaaggcatgagcattatattacatgtttgatttttccctcttagaarattcctgacttat
tttattactgaccacag (SEQ ID No. 52)

Exon 5

ATATTGATGA ATGTGACATT GTCCCAGACG CTTGTAAAGG TGGAATGAAG TGTGTCAACC
ACTATGGAGG ATACCTCTGC CTTCCGAAAA CAGCCAGAT TATTGTCAAT AATGAACAGC
CTCAGCAGGA AACACAACCA GCAGAAGGAA CCTCAGGGGC AACCACCGGG GTTGTAGCTG
CCAGCAGCAT GGCAACCACT GGAGTGTTC CCGGGGGTGG TTTTGTGGCC AGTGTGCTG
CAGTCGAGG CCCTGAAATG CAGACTGGCC GAAATAACTT TGTCATCCGG CGGAACCCAG
CTGACCCTCA GCGATTCCC TCCAACCTT CCCACCGTAT CCAGTGTGCA GCAGGCTACG
AGCAAAGTGA ACACAACGTG TGCCAAG (SEQ ID No. 53)

Start intron 5

Gtaggaataacttattttcctaaccattgaaagctgcaggagaacccccatgaagcttgaattcggatcca
cgttg (SEQ ID No. 54)

End intron 5

Tttggcattctgaaattttgcaatgaaagatttatacawacatgttgccctgctgtttggcaaaaaacaaacagc
tacmgggraacggtataatattaaaggttgatwacacccagttattggttagatttttagaaatttgtcaatgga
aattatctcaaatacaatatattggatggaaaagcaagtatcatacaatctattaaaatttttaacatacaaaac
aataccatatgttctaattggatgcattccctgtctaacaaaagtacaaaaacatctcaggaaggattcattccta
ccgagacagtggttagctgatgggtcaagggtgaggatggtgtgaggcttttagctgtatctgaaatgtttcttaa
caaaacaaatgagccaagaccaacatgacaaaatgttagcatttgttaaatctgagcagtactcactgggtattt
gcaaaattattttctgaacacttgaaataatttataatttttaacatttccaatgcaagaacattataaactttt
aagaataaagtwaatttttagcttaagaagtggcmaaatggargaaatatcaacatcttcacaactgacaatytt
tytstgtgctwgyatgtctswgacag (SEQ ID No. 55)

Exon 6

ACATAGACGA GTGCACTGCA GGGACGCACA ACTGTAGAGC AGACCAAGTG TGCATCAATT
TACGGGGATC CTTTGCATGT CAGTGCCCTC CTGGATATCA GAAGCGAGGG GAGCAGTGCG TAG
(SEQ ID No. 56)

FIG.5B

Start intron 6

Inventors: Stone *et al.*

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Gtaagtaccacagtgagtgagcagcggctcctgtcttgagtaccttaactgtttcaacctcaagcattccaatc
 aaagcattcatgtttctttggagagtggttagccaataattccttattttttatagactaccaatccattttc
 cacaataacaagaacaaccttaaagggtgagcaggagaaccccatgaagcttgaattc
 (SEQ ID No. 57)

End intron 6

Aaactgacatcttatatatatgcaatagtctcaattattttgttttctttaaatctcaatccaccaccaa
 gtttatttaccactgaatggcatgaacattgagtccttcttaacttcttaactcagaatacaaaagtatat
 ttaaaatcacatataccctaatttttaacaaaataggaaattattacttttaaaaagagattttctctacatagg
 ttttctagataatgctttcagagaatgctaattcaataatttggttctcttctgtgtgtgcctgataacctag
 (SEQ ID No. 58)

Exon 7

ACATAGATGA ATGTACCATC CCTCCATATT GCCACCAAAG ATGCGTGAAT ACACCAGGCT
 CATTTTATTG CCAGTGCAGT CCTGGGTTTC AATTGGCAGC AAACAACAT ACCTGCGTAG
 (SEQ ID No. 59)

Start intron 7

Gtaagccttttgagaacttgctgatttctgtcttcacaaaaggaaaccccatgccatgttgagcattttccagt
 tttctatgttcttgagtaaatagtttccatcgacttcccttcagcaatcataaagytcaggagaaccccatga
 agcttgaattcggatccacgtgg (SEQ ID No. 60)

End intron 7

aaactttccactgaaagtgcatcttgatttttacatgccttttctccctttcagaaatgcaatgtcacgg
 :cacaacaattaaaagattggcatgacatgggaaaaaa:tctagtgrggaaaaatgccttttcaacaatattt
 t:cagtgttttagaagcattgcaaaactccgtatgggttctcaaaggcttatgttataattgtaatggaattta
 acagaacccatttaaaaaagttaataa:atagccacagataaatcttccagtaccagcattgcctgaagaagac
 catatccagtataagttgtcttatawcaattatttatagaaattggcattttgtwtcttgaaccaacaaaagaa
 aaatccgaat:mccggaaktgttatattttwttagaagcattaaattcctttgganagattnatcacacatcna
 ctaactgtcattcctagaaaaaatatttcggtatttccnaaagaagtatatgacagacgttgtagttgttccc
 acaaatatganaccnaaatggatgttctccagttagcttctgcagggcaataattcagctaggggaattactca
 ctgtgcagcagatgacgtaggtacaaaagagtaaggatatgtttaagtstaymtatatmtgtgtgtataya
 tatacatatacaymwmymtatayatamratttttttcwag (SEQ ID No. 61)

Exon 8

ATATAATGA ATGTGATGCC AGCAATCAAT GTGCTCAGCA GTGCTACAAC ATTCTTGGTT
 CATTCATCTG TCAGTGCAAT CAAGGATATG AGCTAAGCAG TGACAGGCTC AACTGTGAAG
 (SEQ ID No. 62)

FIG.5C

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FIG. 5E

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Exon 12

CAAACAAGTC CTGTAAGTGC AATGCTTGTG CTCGTGAAGT CATTATCAGG ACCAAGAGAA
CATATCGTGG ACCTGGAGAT GCTGACAGTC AGCAGTATAG GGACCTTCCG CACAAGCTCT
GTGTTAAGAT TGACAATAAT AGTGGGGCCA TTTTCATTTT AG (SEQ ID No. 73)

3' utr

tcttttctaa gagtcaacca caggcattta agtcagccaa agaattttgt taccttaaag
cactatttta tttatagata tatctagtgc atctacatct ctatactgta cactcaccca
taacaaacaa ttacaccatg gtataaagtg ggcatttaat atgtaaagat tcaaagtttg
tctttattac tatatgtaaattagacatta atccactaaa ctggtcttct tcaagagagc
taagtataca ctatctggtg aaacttggat tctttcctat aaaagtggga ccaagcaatg
atgatcttct gtggtgctta aggaaactta ctagagctcc actaacagtc tcataaggag
gcagccatca taaccattga atagcatgca agggtaagaatgagttttta actgctttgt
aagaaaatgg aaaagggtcaa taaagatatatttctttaga aaatggggat ctgccatatt
tgtgttggtt tttattttcatatccagcct aaagggtggtt gtttattata tagtaataaa
tcattgctgtacaacatgct ggtttctgta gggatatttt aattttgtca gaaatttttagattgtgaata
ttttgtaaaa aacagtaagc aaaattttcc agaattcccaaatgaacca gataccctct agaaaattat
actattgaga aatctatgggaggatata gaaaataaat tccttctaaa ccacattgga
actgacctgaagaagcaaac tcggaaaata taataacatc cctgaattca ggcatcacaagatgcagaa
caaatggat aaaagggtatt tcaactggaga agttttaatttctaagtaaa atttaaatcc taacacttca
ctaatttata actaaaattttctcatcttcg tacttgatgc tcacagagga agaaaatgat
gatggtttttatttcttgga tccagagtga cagtgaactt aagcaaatta ccctcctacccaattctatg
gaatatttta tacgtctcct tgtttaaaat ctgactgctttactttgatg tatcatattt ttaaataaaa
ataaatattc ctttagaagatcactctaaaa
(SEQ ID No. 74)

FIG.5F

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Title: MACULAR DEGENERATION

DIAGNOSTICS AND THERAPEUTICS

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M LKALFLTMLTL ALVKSQDTE ETITYTQCTD GYEWDPVRQQ
CKDIDECDIV PDACKGGMKC VNHYGGYLCL PKTAQIIVNN EQPQETQPA
EGTSGATTGV VAASSMATSG VLPGGGFVAS AAVAGPEMQ TGRNNFVIRR
NPADPQRIPS NPSHRIQCAA GYEQSEHNV CQDIDECTAGT HNCRADQVCI
NLRGSFACQC PPGYQKRGEQ CVDIDECTIP PYCHQRCVNT PGSFYCQCSP
GFQLAANNYT CVDINECDAS NQCAQQCYN LGSFICQCNO GYELSSDRLN
CEDIDECRTS SYLCQYQCVN EPGKFSCMCP QGYQVVRST CQDINECET
NECREDEMCW NYHGGFRCYP RNPQDPYIL TPENRCVCPV SNAMCRELPQ
SIVYKYSIR SDRSVPSDIF QIQATTIYAN TINTFRIKSG NENGEFYLRQ
TSPVSAMLVL VKSLSGPREH IVDLEMLTVS SIGTFRTSSV LRLTIIVGPF
SF (SEQ ID NO.: 2)

FIG.6